

CLAIMS:

1. In an integrated circuit, a layer including a plurality of conductive wires, the layer comprising:

a horizontal surface of a first wire of the plurality of conductive wires having a proximal end and a distal end, the proximal end having a first width, the distal end having a second width, the second width being less than the first width, the first wire tapered from the proximal end to the distal end, the first wire further having a first substantially vertical surface ; and

a second wire of the plurality of conductive wires spaced apart from the first wire, the second wire having a second substantially vertical surface, the first wire and the second wire are each horizontally disposed along side each other, wherein one or more capacitors are created between the first substantially vertical surface and the second substantially vertical surface, the one or more capacitor capacitances progressively reduced responsive to the first wire taper.

2. The layer, according to claim 1, further comprising at least one dielectric material disposed between the first substantially vertical surface and the second substantially vertical surface.

3. The layer, according to claim 1, wherein the first wire is a signal wire.

4. The layer, according to claim 3, wherein the second wire is a shielding wire.

5. The layer, according to claim 4, wherein the first wire is tapered in progressively inward stepwise indentations away

from the second wire along the first substantially vertical surface.

6. The layer, according to claim 5, wherein the first wire is tapered in progressively inward stepwise indentations toward the second wire along another substantially vertical surface of the first wire.

7. The layer, according to claim 1, wherein the first wire is a shielding wire, the shielding wire for a non-transitioning signal voltage, the non-transitioning signal voltage not transitioning from high-to-low and low-to-high logic levels during application of electrical energy to operate the integrated circuit.

8. The layer, according to claim 7, wherein the second wire is a signal wire, the signal wire for a transitioning signal voltage, the transitioning signal voltage transitioning from high-to-low and low-to-high logic levels during application of the electrical energy to operate the integrated circuit.

9. The layer, according to claim 8, wherein the first wire is continuously tapered away from the second wire along the first substantially vertical surface.

10. The layer, according to claim 8, wherein the first wire is continuously tapered toward the second wire.

11. An integrated circuit conductive line, comprising:
a plurality of loads, the plurality of loads progressively reduced responsive to progressively reduced parasitic capacitance; and
a plurality of taps, a tap of the plurality of taps located between a pair of loads of the plurality of loads.

12. The integrated circuit conductive line, according to claim 11, wherein load capacitance at the tap is substantially less than the parasitic capacitance at the tap location from a portion of the plurality of loads.

13. The integrated circuit conductive line, according to claim 12, wherein the load capacitance comprises transistor gate capacitance.

14. The integrated circuit conductive line, according to claim 13, wherein the transistor gate capacitance is from a transistor formed with sub-quarter micron lithography.

15. The integrated circuit conductive line, according to claim 14, wherein the plurality of loads are provided using a tapered signal line.

16. The integrated circuit conductive line, according to claim 15, wherein the tapered signal line has a minimum width of one micron.

17. The integrated circuit conductive line, according to claim 15, wherein the tapered signal line is a clock signal line.

18. The integrated circuit conductive line, according to claim 15, wherein the tapered signal line is a delay line.

19. The integrated circuit conductive line, according to claim 14, wherein the plurality of loads are provided using a tapered shielding line.

20. The integrated circuit conductive line, according to claim 19, wherein the tapered shielding line is either a ground line or a source voltage line.

21. A method for forming a portion of an integrated circuit, the method comprising:

providing a mask, the mask defining a pattern of laterally or longitudinally oriented signal lines of which a portion are tapered to provide progressively reduced parasitic sidewall capacitance in the portion of the integrated circuit; and

patterning the signal lines responsive to the mask to form the portion of the integrated circuit.

22. The method, according to claim 21, wherein the portion of the signal lines are stepwise tapered.

23. An integrated circuit (IC) having a plurality of metal traces, the IC further comprising:

at least part of a first metal trace of the plurality of metal traces comprising a tapered shape, a first position along the tapered shape, and a second position along the tapered shape, the second position spaced from the first position; and

a part of a second metal trace of the plurality of metal traces positioned adjacent to the at least part of the first metal trace and causing capacitance between the at least part of a first metal trace and the part of the second metal trace, the capacitance approximately decreasing in value from the first end to the second end.

24. The IC of claim 23 wherein the plurality of metal traces are located in the same layer of the IC;

25. The IC of claim 23 wherein the second metal trace is a non-tapered shielding line.

26. The IC of claim 23 further comprising a dielectric interposed between the at least part of the first metal trace and the part of the second metal trace.

27. In an integrated circuit, a layer including a plurality of conductive wires, the layer comprising:

a first wire having a proximal end and a distal end, the proximal end having a first width, the distal end having a second width, the second width being less than the first width, the first wire tapered from the proximal end to the distal end, the first wire further having first sidewalls; and

a second wire spaced apart from the first wire, the second wire having second sidewalls, the first wire and the second wire are each horizontally disposed along side each other, wherein a sidewall capacitor is created with a sidewall of the first sidewalls and a sidewall of the second sidewalls, the capacitor capacitance progressively reduced responsive to the first wire taper.